

ASTG Introduction to Doxygen Auto-Documentation Tool

Overview

Doxygen can help reduce the overhead associated with source code documentation. It is an auto-documentation system for C++, C, IDL, and several other languages that can generate HTML or a reference manual from embedded source code. The documentation is extracted directly from specially formatted comments in the source code. This makes it much easier to keep the documentation consistent with the source code.

Designating Doxygen Documentation in Your Source Code

To designate a special documentation block use C-style comment blocks (in C, C++, and Java) with some additional markings. Doxygen comment blocks that are above a class or method will automatically be associated with that class or method. Doxygen can be set to use brief and long descriptions separated by a period. The JavaDoc style (e.g. `/** ... */`) also requires that the configuration file has the option `JAVADOC_AUTOBRIEF` set to YES (see below).

<u>Keyword</u>	<u>Description</u>
<code>/**</code>	Start of comment block. The first line is a brief description, with details following
<code>*/</code>	End of comment block
<code>@author</code>	Names of authors follow
<code>@date</code>	Date of unit follows
<code>@param</code>	Parameter name and a description follows
<code>@return</code>	Description of return value follows

See the ASTG *DoxygenCppTemplate.h* for more complete usage and the recommended format.

Using Doxygen to Generate Documentation

The Doxygen GUI-based application is installed on the Mac. It can both configure and run Doxygen. Doxywizard can read and write Doxygen configuration files, and allows setting configuration options by entering them via dialogs.

You can also generate documentation through the command line. Doxygen requires a configuration file for each project. A config file resembles a makefile, and a simple configuration file might look like:

```
PROJECT_NAME      = Example
INPUT             = $(EXAMPLE_PATH)/src
GENERATE_LATEX    = YES
FILE_PATTERNS     = *.cpp *.h
WARNINGS         = YES
PERL_PATH        = /usr/bin/perl
JAVADOC_AUTOBRIEF = YES
```

Doxygen can generate L^AT_EX, HTML, RTF, XML, and man pages. When the `GENERATE_LATEX` option is set, L^AT_EX files will be generated in the current directory. Use `LATEX_OUTPUT` to designate a different path.

After the configuration file is set up, running Doxygen to generate documentation is as simple as:

```
doxygen <config-file>
```

There are scores of other configuration options available. For complete documentation on Doxygen, see <http://www.doxygen.org/manual.html>